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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/849,730	05/20/2004	Taeman Kim	140-095	7339

7590

11/04/2004

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EXAMINER

QUASH, ANTHONY G

ART UNIT

PAPER NUMBER

2881

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/849,730	KIM ET AL.	
	Examiner	Art Unit	
	Anthony Quash	2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 May 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>5/20/04</u> . | 6) <input type="checkbox"/> Other: ____ |

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "13" and "11" have both been used to designate the ion guide in figure 5. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: of the RF generator when referring to figure 4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the

applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: of the ion guide 169, which is not labeled in the figure 11. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Marked-up Drawings" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-14, 16, 18-19, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bateman [6,794,641]. As per claim 1, Bateman [6,794,641] teaches an apparatus for use in mass spectrometry, the apparatus comprising a first set of electrodes having a first potential applied thereto, a second set of electrodes having a second potential applied thereto, first and second power sources for generating the first and second potentials respectively, wherein the first and second electrodes are interleaved with the second set of electrodes, and wherein the potentials are applied such that the ions may be selectively trapped in the apparatus or guided through the apparatus. See Bateman [6,794,641] fig. 3, col. 3 lines 20-50, col. 4 lines 15-20, col. 8 lines 45-50, col. 15 lines 44-50, col. 19 line 35 – col. 20 line 15, 50-67, and col. 21 lines 1-6. However, Bateman [6,794,641] does not explicitly state that the apparatus has first and second lens elements positioned at either end of the apparatus wherein ions are introduced into an entrance of the apparatus through the first lens element. Bateman [6,794,641] does teach the apparatus having first and second electrodes positioned at either end of the apparatus wherein ions are introduced into an entrance of the apparatus through the first electrode element. See Bateman [6,794,641] fig. 3, col. 3 lines 20-50, col. 4 lines 15-20, col. 8 lines 45-50, col. 15 lines 44-50, col. 19 line 35 – col. 20 line 15, 50-67, and

col. 21 lines 1-6. In addition, Bateman [6,794,641] teaches the end electrodes being used to help contain the ions. See Bateman [6,794,641] col. 19 line 35 – col. 20 line 15, 50-67, and col. 21 lines 1-6. Bateman [6,794,641] shows that electrode is an equivalent structure known in the art. Therefore, because these two aperture means elements/ion trapping elements were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute the lens in applicants' invention for the electrodes in Bateman [6,794,641]. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have first and second lens elements positioned at either end of the apparatus wherein ions are introduced into an entrance of the apparatus through the first lens element in order to aid in the trapping of ions.

As per claim 2, Bateman [6,794,641] teaches the ions being produced from an ion source selected from the group consisting of an electrospray source, a matrix-assisted laser desorption/ionization source, a chemical ionization source, an atmospheric pressure ionization source, and an atmospheric pressure photoionization source. See Bateman [6,794,641] col. 33 lines 18-30.

As per claim 3, Bateman [6,794,641] teaches the first potential being a substantially RF-only potential. See Bateman [6,794,641] col. 20 lines 1-15.

As per claim 4, Bateman [6,794,641] teaches the second electrode being substantially DC potential. See Bateman [6,794,641] fig. 3, col. 3 lines 20-50, col. 19 line 35 – col. 20 line 15, 50-67, and col. 21 lines 1-6.

As per claim 5, Bateman [6,794,641] teaches all aspects of the claim except for explicitly stating that the first and second electrode is composed of an electrically conducting material. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the first and second electrode be composed of an electrically conducting material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

As per claim 6, Bateman [6,794,641] teaches the first and second electrodes being aligned along a common axis. See Bateman [6,794,641] fig. 3.

As per claim 7, Bateman [6,794,641] teaches the ion traveling along a straight line parallel to the common center axis of the electrodes. See Bateman [6,794,641] fig. 3. Also see Bateman [6,794,641] fig. 4. Therefore it is the examiner's view that it is implied in Bateman [6,794,641] that the ions are produced from an ion source positioned orthogonal to the common axis before entering the apparatus through the first lens/electrode element.

As per claim 8, Bateman [6,794,641] teaches the first electrode being segmented electrodes. See Bateman [6,794,641] fig. 3, col. 4 lines 4-15.

As per claim 9, Bateman [6,794,641] teaches all aspects of the claim except for explicitly stating that the lens/electrode being composed of an electrically conducting material. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the lens/electrode be composed of an electrically conducting material, since it has been held to be within the general skill of a worker in

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the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

As per claim 10, Bateman [6,794,641] teaches all aspects of the claim except for explicitly stating that each second electrode be positioned midway between two of the first electrodes. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have each second electrode be positioned midway between two of the first electrodes, since it has been held that rearranging parts of an invention involves only routine skill in the art.

As per claim 11, Bateman [6,794,641] teaches the potentials being applied to the electrodes such that the apparatus guides ions. See Bateman [6,794,641] fig. 3, col. 3 lines 20-50, col. 4 lines 15-20, col. 8 lines 45-50, col. 15 lines 44-50, col. 19 line 35 – col. 20 line 15, 50-67, and col. 21 lines 1-6.

As per claim 12, Bateman [6,794,641] teaches the first potential being a sinusoidal time-varying potential. See Bateman [6,794,641] fig. 3, and col. 19 lines 25-32, 55 – col. 20 line 14.

As per claim 13, Bateman [6,794,641] teaches the first potential applied to one of the first electrode being 180 degrees out of phase with the first potential applied to each adjacent the first electrode. See Bateman [6,794,641] fig. 3, and col. 19 lines 25-32, 55 – col. 20 line 14.

As per claim 14, Bateman [6,794,641] teaches all aspects of the claim except for explicitly stating that the first and second potential have a non-zero reference potential. It would have been obvious to one having ordinary skill in the art at the time the

invention was made to the first and second potential have a non-zero reference potential, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

As per claim 16, Bateman [6,794,641] teaches the potentials being applied to the electrodes such that the apparatus traps ions. See Bateman [6,794,641] col. 4 lines 15-20, col. 8 lines 40-55, col. 20 lines 50-67.

As per claim 18, Bateman [6,794,641] teaches the second potential being maintained for a predetermined time, such that the apparatus accumulates and traps ions. See Bateman [6,794,641] fig. 3, col. 3 lines 20-50, col. 4 lines 15-20, col. 8 lines 45-50, col. 15 lines 44-50, col. 19 line 35 – col. 20 line 15, 50-67, and col. 21 lines 1-6.

As per claim 19, Bateman [6,794,641] teaches the ions colliding with a gas within the apparatus. See Bateman [6,794,641] fig. 3, col. 23 lines 1-10, col. 23 line 60 – col. 24 line 5, and col. 24 lines 30-40.

As per claim 21, Bateman [6,794,641] teaches the ions being introduced from the apparatus into a mass analyzer selected from the group consisting of a multipole mass analyzer, a quadrupole mass analyzer, a hexapole mass analyzer, a time-of-flight mass analyzer, an ion cyclotron resonance mass analyzer, a linear quadrupole mass analyzer, a quadrupole ion trap mass analyzer, a magnetic sector mass analyzer, and an electric sector mass analyzer. See Bateman [6,794,641] col. 21 line 60 - col. 22 line 6, and col. 34 lines 55-67.

Claims 15,17,22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bateman [6,794,641] in view of Bateman [6,762,404]. As per claim 15, Bateman

[6,794,641] teaches all aspects of the claim except for explicitly stating that the second potential being applied via a network of resistors and capacitors. Bateman [6,762,404] does teach the second potential being applied via a network of resistors and capacitors. See Bateman [6,762,404] figs. 1-2, and col. 9 lines 15-25. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the second potential be applied via a network of resistors and capacitors in order allow one to set the proper potential to the electrodes and prevent damage to the electrodes due to excessive current and voltage.

As per claim 17, Bateman [6,794,641] in view of Bateman [6,762,404] teach all aspects of the claim except for explicitly stating that lens elements be maintained at a DC potential greater than the second potential. Bateman [6,762,404] does however infer this. This is made evident when Bateman [6,762,404] states "The DC voltage supplied to the plates forming the entrance and exit apertures (2,3) is also preferably independently controllable and preferably no AC or RF voltage is supplied to the these plates. Embodiments are also contemplated wherein a relatively high DC trapping potential may be applied to the plates forming entrance and/or exit aperture (2,3) in addition to or instead of a trapping potential being supplied to one or more ion tunnel segments such as at least the final ion tunnel segment (4c)." See Bateman [6,762,404] figs. 1a-2, and col. 9 lines 55-65. It is the examiner's view that the entrance and exit aperture plates (2,3) are equivalent to applicants' lenses. Base upon this, the examiner believes that this claims is inferred due to the teaching of the entrance and exit aperture plates be set at a higher potential.

As per claim 22, Bateman [6,762,404] teaches the first and second potentials being applied to the first and second electrodes, via at least one network of resistors and capacitors. See Bateman [6,762,404] figs. 1a-2 and col. 9 lines 15-25.

As per claim 23, Bateman [6,762,404] teaches the network or resistor and capacitors being configured such that substantially RF-only potentials are applied to the first electrode through the capacitors. See Bateman [6,762,404] figs. 1a-2, col. 9 lines 15-30, col. 4 lines 28-32, and col. 12 lines 45-50.

As per claim 24, Bateman [6,762,404] teaches the network of resistors and capacitors being configured such that electrostatic potentials are applied to the second electrodes through the resistors. See Bateman [6,762,404] figs. 1a-2, col. 9 lines 15-21.

Claims 1,20,25-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bateman [6,642,514] in view of Bateman [6,762,404]. As per claims 1,25, Bateman [6,794,641] teaches generating ions, introducing the ions into a first pressure region of a mass spectrometer, directing the ions into through a first electrode element (5) into an ion guide comprising a plurality of first and second aperture electrodes, the first electrodes being interleaved with the second electrodes, applying first and second potentials to the first and second electrodes via first and second power sources, utilizing the ion guide to guide the ions from a first pressure region into a second pressure region, and transferring the ions from the second pressure region into a mass analyzer. See Bateman [6,642,514] abstract, figs. 1-2, col. 1 lines 1-10, 30-50, 65-67, col. 2 lines 1-12, 40-60, col. 3 lines 10-45, col. 4 lines 20-67, col. 5 lines 1-20, and col. 6 lines 9-25.

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However, Bateman [6,642,514] does not explicitly state the ions being created from a sample, nor does it explicitly teach directing the ions into through a first lens element. With respect to applicants' claim that the ions be created from a sample, it is the examiners view that Bateman [6,642,514] teaches an equivalent source of ions (1) in fig. 2. See Bateman [6,642,514] fig. 2 and col. 4 lines 34-47. In addition, the examiner would like to state that it was well known in the art to produce ions from samples. An example of this is can be seen in Bateman [6,794,641] fig. 4. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to produce ions from a sample since it was notoriously well known in the art at the time the invention was made, as a matter of design choice. With respect to the applicants' claim concerning the ion entering the apparatus through a first lens. Bateman [6,762,404] teaches an electrode acting (2) acting the as an entrance lens for allowing ions to enter the apparatus. See Bateman [6,762,404] abstract, col. 9 lines 44-67. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made have the ions enter the apparatus through a first lens in order to allow the trapping of ions and increase fragmentation. Although Bateman [6,642,514] does not explicitly teach the potentials being applied such that ions may be selectively trapped in the apparatus or guided through the apparatus, Bateman [6,762,404] does infer this. This is made evident when Bateman [6,762,404] states, "The DC voltage supplied to the plates forming the entrance and exit apertures (2,3) is also preferably independently controllable and preferably no AC or RF voltage is supplied to the these plates. Embodiments are also contemplated wherein a relatively high DC trapping potential

may be applied to the plates forming entrance and/or exit aperture (2,3) in addition to or instead of a trapping potential being supplied to one or more ion tunnel segments such as at least the final ion tunnel segment (4c)." See Bateman [6,762,404] figs. 1a-2, and col. 9 lines 55-65. It is the examiner's view that the entrance and exit aperture plates (2,3) are equivalent to applicants' lenses. Base upon this, the examiner believes that this claims is inferred due to the teaching of the entrance and exit aperture plates be set at a higher potential. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the potentials be applied such that the ions may be selectively trapped in the apparatus or guided through the apparatus in order to aid in the opening and closing of the fragmentation cell, and constraining the pulse width of packet of ions as taught in Bateman [6,762,404]. See Bateman [6,762,404] col. 10 lines 30-63.

As per claim 20, Bateman [6,642,514] teaches the apparatus beginning in a first pressure region of a mass spectrometer and ending in a second pressure region. See Bateman [6,642,514] fig. 2, col. 2 lines 49-60, and col. 5 lines 1-10.

As per claim 26, Bateman [6,642,514] in view of Bateman [6,762,404] teach all aspects of the claim except for explicitly stating that an electrostatic potential be applied to the second aperture electrodes as a function of the second aperture electrodes position along a common axis of the ion guide such that the electrostatic potential most repulsive to the ions be applied to the second electrode at an entrance end of the ion guide and the electrostatic potential most attractive to the ions be applied to the second electrode at an exit end of the ion guide. Bateman [6,762,404] does teach the

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electrodes being independently controllable and provided with different potentials and along the length of axis. See Bateman [6,762,404] col. 8 lines 40-50, and col. 9 lines 45-67. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have an electrostatic potential be applied to the second aperture electrodes as a function of the second aperture electrodes position along a common axis of the ion guide such that the electrostatic potential most repulsive to the ions be applied to the second electrode at an entrance end of the ion guide and the electrostatic potential most attractive to the ions be applied to the second electrode at an exit end of the ion guide in order to aid in guide/propelling the ions to the mass analyzer.

As per claim 27, Bateman [6,642,514] teaches the ion being generated by an ion producing means. See Bateman [6,642,514] col. 4 lines 30-40.

As per claim 28, Bateman [6,642,514] teaches the ion producing means being selected from the group consisting of an electrospray ionization source, a Matrix-Assisted Laser Desorption/Ionization source, an Atmospheric Pressure Chemical Ionization source, an Inductively Coupled Plasma ionization source, a nebulizer assisted Electrospray ionization source, and a plasma desorption ionization source. See Bateman [6,642,514] col. 6 lines 10-20.

As per claim 29, Bateman [6,642,514] teaches the ion producing means being operated at substantially atmospheric pressure. See Bateman [6,642,514] col. 6 lines 9-10.

As per claim 30, Bateman [6,642,514] teaches the mass analyzer being selected from the group consisting of a quadrupole mass analyzer, an ion cyclotron resonance mass analyzer, a time-of-flight mass analyzer, and a quadrupole ion trap mass analyzer. See Bateman [6,642,514] col. 6 lines 20-30.

As per claim 31, Bateman [6,642,514] teaches the ions being produced from an ion source positioned orthogonal to the common axis before entering the ion guide through the first lens/electrode element. See Bateman [6,642,514] fig. 2.

As per claim 32, Bateman [6,642,514] teaches the ion being directed into the ion guide with a trajectory substantially coaxial with the ion guide. See Bateman [6,642,514] fig. 2.

As per claim 33, Bateman [6,642,514] teaches the first and second electrodes of the ion guide having substantially the same diameters. See Bateman [6,642,514] figs. 1-2.

As per claim 34, Bateman [6,762,404] teaches the first and second potentials being applied to the first and second electrodes, via at least one network of resistors and capacitors. See Bateman [6,762,404] figs. 1a-2 and col. 9 lines 15-25.

As per claim 35, Bateman [6,762,404] teaches the network or resistor and capacitors being configured such that substantially RF-only potentials are applied to the first electrode through the capacitors. See Bateman [6,762,404] figs. 1a-2, col. 9 lines 15-30, col. 4 lines 28-32, and col. 12 lines 45-50.

As per claim 36, Bateman [6,762,404] teaches that substantially RF-only potentials applied to one of the first electrodes is 180 degrees out phase with

substantially RF-only potential applied to each adjacent the first electrode. See Bateman [6,762,404] col. 8 lines 61-67.

As per claim 37, Bateman [6,762,404] teaches the network of resistors and capacitors being configured such that electrostatic potentials are applied to the second electrodes through the resistors. See Bateman [6,762,404] figs. 1a-2, col. 9 lines 15-21.

As per claim 38, Bateman [6,762,404] teaches the capacitors all have substantially the same value. See Bateman [6,762,404] col. 9 lines 27-30.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 6,727,495 to Li and U.S. Published Patent Application, 2002/0092980 to Park are considered pertinent to the applicants' disclosure. Li [6,727,495] is considered pertinent due to its teaching on an ion mobility spectrometer with high ion transmission efficiency. Park [2002/0092980] is considered pertinent due to its discussion on a method and apparatus for a multipole ion trap orthogonal time-of-flight mass spectrometer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Quash whose telephone number is (571)-272-2480. The examiner can normally be reached on Monday thru Friday 9 a.m. to 5 p.m..

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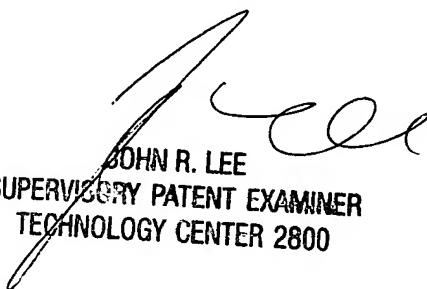
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (571)-272-2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A. Quash



10/20/04



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TECHNOLOGY CENTER 2800